

ABSTRACT OF THE DISCLOSURE

An integrated reactor for producing fuel gas for a fuel cell, the integrated reactor comprises an waste gas oxidizer (WGO) assembly having an associated WGO chamber, an inlet, an outlet and a flow path for exothermic gases produced in the WGO chamber. The integrated reactor has an autothermal reactor (ATR) assembly located within the WGO chamber. The ATR assembly has an inlet means and an outlet means for process gases flowing therethrough and a catalyst bed which is intermediate the inlet and outlet means. At least a part of the inlet means of the ATR assembly is located in the flow path of the WGO chamber to facilitate the transfer of thermal energy.

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